THERE IS CLAIMED:

1. A method of coating an optical fiber, the method including a step of coating said fiber with a curable coating composition and a step of curing said composition, which contains an unsaturated compound having a double bond and an oxidation catalyst, in which method said curing step includes an in-line first phase consisting in exposing said coated fiber to UV radiation for a time shorter than the time needed for complete curing followed by an off-line second phase consisting in placing said coated fiber in an oxidizing medium in order to complete curing.
2. The method claimed in claim 1 wherein said oxidizing medium is gaseous.
3. The method claimed in claim 2 wherein said oxidizing medium is oxygen.
4. The method claimed in claim 2 wherein said oxidizing medium is air.
5. The method claimed in claim 1 wherein said oxidation catalyst is a metal carboxylate.
6. The method claimed in claim 5 wherein said oxidation catalyst is a carboxylate of at least one metal chosen in the group comprising cobalt, manganese, zirconium, calcium, zinc, aluminum, and lithium.
7. The method claimed in claim 1 wherein the proportion of said catalyst is at most equal to 10% by weight of said composition.
8. The method claimed in claim 7 wherein the proportion of said catalyst is from 0.5% by weight to 10% by weight of said composition.
9. The method claimed in claim 8 wherein the proportion of said catalyst is from 0.5% by weight to 10% by weight of said composition.
10. The method claimed in claim 1 wherein said unsaturated compound is chosen from an acrylate oligomer and a monomer.
11. The method claimed in claim 10 wherein said unsaturated compound is chosen from a urethane-acrylate oligomer and a monomer.
12. The method claimed in claim 1 wherein said composition further contains a photocure initiator.
13. The method claimed in claim 1 wherein said first phase is carried out at a speed at least equal to 1 000 m/min.
14. The method claimed in claim 13 wherein said first phase is carried out at a speed at least equal to 1 200 m/min.
15. An optical fiber including a cured coating obtained by the method

claimed in claim 1 and wherein said coating contains an oxidation catalyst.

**16.** The optical fiber claimed in claim 15 wherein said coating includes a plurality of layers and at least one of said layers contains an oxidation catalyst.

**17.** A telecommunication cable including at least one optical fiber as claimed in claim 15.